By Carl Malamud

# Novell's Gateway to Nowhere

How did Novell ever get so popular?

Umberto Eco, in his recent novel *Foucault's Pendulum*, creates what he calls the School of Comparative Irrelevance, complete with a department of Tetrapyloctomy (the art of splitting hairs four ways).

Maybe it's just a case of art imitating life, but I've started to think that some of Novell's marketing managers studied at this university (indeed, graduated with honors).

Did Novell's recent announcement of an SAA gateway strike anyone else as bizarre?

IBM's Systems Application Architecture is a grand vision of cooperation among diverse systems, but so far it's pretty much all in the future tense. IBM barely has any SAA products. So how can Novell have a product—a gateway, no less—ready to ship?

Turns out that what it has is 3270 terminal emulation plus a few bells and whistles. When pressed that 3270 terminal emulators for PCs are a dime a dozen, a Novell marketeer conceded the point but emphasized that his gateway could support 1,000 current sessions.

Sounds impressive, doesn't it? A thousand sessions, all going through a single PC acting as the gateway.

Unfortunately, it smacks of creative accounting on Novell's part. Just for the sake of comparison, 1,000 sessions would take up the entire capacity of *four* cluster controllers.

If this were the first time this sort of thing has happened, I'd write it off to overzealous marketing. But Novell seems to be making a corporate strategy out of announcing products that don't exist and in some cases may never exist.

Worse, when you talk to consultants and users, they're almost universal in agreeing that what is out there from Novell is quickly strung together, inelegant, and buggy. In other words, it's a kludge.

So I'm a snob. Ugly software just doesn't appeal to me. I can program in dBase or COBOL, but I avoid it. In the networking world, Novell is the equivalent. People use it, but I kind of wonder why.

Still, the simple truth is that Novell NetWare is the best-selling PC networking product on the market. Lots of people use it. Lots of people even like it.

Why? Well, for one thing, it works. Novell was the first company to put a fairly simple solution on the market for the personal computer. It made the network server an extension of DOS, unlike some of its early competitors, which played games with compartments, partitions, and used other ways to make the server a difficult and inaccessible object.

For another, Novell put lots of drivers into its package. It works with ARCnet, token ring, and Ethernet. Not only that, it works with lots of vendors' implementations of these standards. In other words, no matter who you bought your hardware from, Novell has a networking solution.

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Novell also made its product fast. Novell NetWare consistently beats the competition when it comes to the basic PC operation: Get a file from the server and bring it to the workstation. Granted, more sophisticated operations (such as SQL-based database access) don't work as well, but the fundamental operation is solid.

Sounds pretty good, doesn't it? So why do people like me think Novell ranks right up there with a fine meal from Howard Johnson's?

It's a question of sophistication: When it comes to messaging, record-level file searches, true distributed locking, and a host of other services, Novell doesn't perform nearly as well.

Essentially, the basic core Novell software works fine for simple data access in small networks. More than half of all Novell installations are said to be eight nodes or less. Granted, a few sites use Novell in large internetworks. But many do so because they locked themselves in early on.

Besides poor support, hyperactive publicists, and bugs, Novell also faces some fundamental design problems that were avoided in more mature networks and operating systems such as VAX/VMS with DECnet or TCP/IP with Berkeley Unix.

Take NetWare/386. Novell announced this product with much fanfare and went to great pains to point out a "performance-enhancement" feature—lack of memory protection.

Memory protection means that one program can't write over a region of memory used by another. When it's missing, it's possible for a random utility to write over the operating system kernel's registers in memory. No problem, according to Novell. Programs should undergo rigorous testing before being allowed to run or should run on dedicated servers.

I don't know about your network, but I can't afford to dedicate separate servers to every piece of software coming out. Nor would I want to: I want my users buying, installing, and testing software themselves.

By the way, the lack of memory pro-

tection has caused enough problems that Novell is going to subject all Network Loadable Modules (NLMs) to a rigorous Novell test. Great! It's bad enough having me certify all software; can you imagine having it certified by a company already overloaded by trying to keep up with premature product announcements?

There's also the "good guy" scheduling algorithm in NetWare/386 that enables a program to keep the CPU forever. A user enters a ridiculous SQL query, locks up the CPU, and freezes all other users out for the next couple of hours. Most multi-user operating systems have a scheduling process that rotates access to the CPU among multiple processes. It's called timesharing.

It's not just the operating system that's flawed. A close look at the network reveals some serious problems. Novell uses a "bridge," which the rest of the industry calls a router, to move packets between subnetworks—two Ethernets or an Ethernet and a token ring, for example.

Let's say we have two Ethernets. Since Ethernet allows a packet to be around 1,500 bytes, sending packets of 500 bytes between the networks is a waste of bandwidth. But that's exactly what Novell does: Packets crossing a subnetwork boundary are limited to 576 bytes.

The fact of the matter is Novell grabbed the market early on, just as Ashton-Tate did for databases with its dBase II. But look at what's happening to dBase. Real database products are starting to come out while Ashton-Tate is giving new meaning to the words "project management."

If Novell had concentrated on clean, elegant enhancements to its software, it might still be the unrivaled leader. But sadly, its dominance in the core technology has been wasted.

There's a real market opportunity out there. Novell obviously realizes it's going to have to do something. Why else would it try to merge with Lotus? There are certainly no technical or business reasons that anyone can see. Why else would it keep announcing things like SAA gateways? If it were truly a technology leader, it wouldn't have to hype imaginary products. ■

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**Carl Malamud** is the author of *Analyzing Novell Networks* (Van Nostrand Reinhold, 1990) and other networking books.


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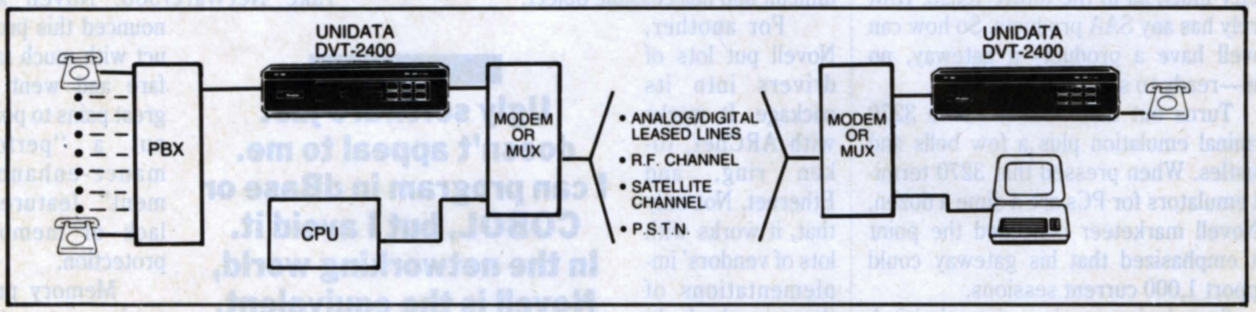


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